What is claimed is:

1. A metal collector foil for an electric double layer capacitor, comprising:

an etched metal collector foil having etched upper and lower surface layers and an unetched central layer disposed between the etched upper and lower surface layers,

wherein the etched upper and lower surface layers have a total thickness sufficient to provide the metal collector foil with a capacitance per unit area that corresponds to a capacitance value obtained when the etched metal collector foil is subjected to an anodic formation process with application of a withstanding voltage of 65.5 volts, the capacitance value being not less than 1.7 μF/cm^2, and the unetched central layer has a thickness sufficient to provide the metal collector foil with a tensile strength not less than 9,000 N/cm^2.

2. The metal collector foil according to claim 1, wherein the metal collector foil comprises an aluminum foil having a purity of at least 99.8% and an overall thickness of approximately 39 μm, the total thickness of the etched upper and lower surface layers is in a range of 22 to 30 μm, and the thickness of the unetched central layer is in a range of 9 to 17 μm.

3. A method of producing a metal collector foil for use in an electric double layer capacitor, comprising the steps of:

preparing a plain metal foil; and

etching the metal foil in a chloride solution to dissolve the surface of the metal foil until etched upper and lower surface layers of the metal foil have a total thickness sufficient to provide the metal foil with a capacitance per unit area that corresponds to a capacitance value obtained when the etched metal

collector foil is subjected to an anodic formation process with application of a withstanding voltage of 65.5 volts, the capacitance value being not less than 1.7 μ F/cm^2, and an unetched central layer of the metal foil has a thickness sufficient to provide the metal foil with a tensile strength not less than 9,000 N/cm^2.

4. The method according to claim 3, wherein the metal collector foil comprises an aluminum foil having a purity of at least 99.8% and an overall thickness of approximately 39 μm, and the etching is carried out to the extent that the total thickness of the etched upper and lower surface layers is in a range of 22 to 30 μm, and the thickness of the unetched central layer is in a range of 9 to 17 μm.

5. An electric double layer capacitor comprising:

a positive electrode and a negative electrode each having a metal collector foil and an electrode material formed mainly from activated carbon and bonded to both opposite surfaces of the metal foil;

a dielectric separator disposed between the positive and negative electrodes; and

a liquid electrolyte impregnated in the electrode material to enable charging and discharging of the electric double layer capacitor,

wherein the metal collector foil has etched upper and lower surface layers and an unetched central layer disposed between the etched upper and lower surface layers, the etched upper and lower surface layers having a total thickness sufficient to provide the metal collector foil with a capacitance per unit area that corresponds to a capacitance value obtained when the etched metal collector foil is subjected to an anodic formation process with application of a withstanding voltage of 65.5 volts, the capacitance value being not less than

1.7 μF/cm^2, and the unetched central layer having a thickness sufficient to provide the metal collector foil with a tensile strength not less than 9,000 N/cm^2.

6. The electric double layer capacitor according to claim 5, wherein the metal collector foil comprises an aluminum foil having a purity of at least 99.8% and an overall thickness of approximately 39 μm, the total thickness of the etched upper and lower surface layers is in a range of 22 to 30 μm, and the thickness of the unetched central layer is in a range of 9 to 17 μm.